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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,265	12/19/2000	Hiroyuki Yasoshima	57457-015	5780

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Washington, DC 20005-3096

EXAMINER

ROSS, JOHN M

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/739,265

Applicant(s)

YASOSHIMA, HIROYUKI

Examiner

John M Ross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,9,10,16,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6,9,10,16,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 December 2004 has been entered.

Status of Claims

2. Claims 1-5, 7-8, 11-15, 17-18 and 21 are canceled.

Claims 6, 9-10, 16 and 19-20 are pending in the application.

Claims 6, 9-10, 16 and 19-20 are rejected.

Response to Amendment

3. Applicant's amendments and arguments filed on 27 December 2004 in response to the office action mailed on 5 October 2004 have been fully considered, but they are not persuasive. Therefore, the grounds of rejection made in the previous office action are maintained and restated below, with changes as needed to address the amendments.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 10, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (APA) in view of O'Neill (WO 96/38778 A1).

As in claim 6, APA discloses a system comprising:

a ring buffer which acts as one ring, having a plurality of address locations for storing incoming data (Fig. 2B);

a first boundary pointer for indicating an end point of a first buffer area formed within the ring buffer in to which the incoming data can be stored (Fig. 2B; page 3, lines 20-22);

a second boundary pointer for indicating an end point of a second buffer area formed within the ring buffer into which the incoming data can be stored (Fig. 2B; page 3, lines 20-22).

a first read pointer, coupled to the memory array, for indicating a read address of the first buffer area (Fig. 2B; page 3, line 20 to page 4, line 8);

a first write pointer, coupled to the memory array, for indicating a write address of the first buffer area (Fig. 2B; page 3, line 20 to page 4, line 8);

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a second read pointer, coupled to the memory array, for indicating a read address of the second buffer area (Fig. 2B; page 3, line 20 to page 4, line 8); and

a second write pointer, coupled to the memory array, for indicating a write address of the second buffer area (Fig. 2B; page 3, line 20 to page 4, line 8),

wherein the first write pointer and second write pointer are separated from the first boundary pointer and second boundary pointer (Fig. 2B) and

each of the first read pointer, first write pointer, second read pointer, second write pointer, first boundary pointer and second boundary pointer, is capable of moving in a circulating fashion within the plurality of address locations of the ring buffer (Fig. 2B; page 3, line 20 to page 4, line 8).

APA teaches a combined read/boundary pointer and therefore does not teach that the first and second read pointers are separate from the first and second boundary pointers, nor does APA teach a controller for adjusting the value of the first and second boundary pointers in accordance with the amount of incoming data to be stored as required by claim 6.

APA also does not teach that the controller dynamically varies the value of the first and second boundary pointers during operation in response to the amount of incoming data to be stored as required by claim 10.

As to claim 6, O'Neill teaches a system where first and second boundary pointers indicating end points of a first and second buffer are separate from the buffer read and write

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pointers (Fig. 3, elements A, B, TOP and BOTTOM; page 3, lines 10-21), thereby enabling a controller to adjust the value of the first and second boundary pointers in accordance with an amount of incoming data to be stored, and allowing the sizes and relative sizes of the buffers to be varied (Page 2, lines 8-13; page 2, line 26 to page 3, line 2; page 3, lines 22-27).

Regarding claim 6, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to define boundary pointers separate from the read and write pointers, and use a controller to adjust the values of the first and second boundary pointers in accordance with the amount of incoming data to be stored as taught by O'Neill, in the system of APA, in order to allow the sizes and relative sizes of the buffers to be varied as taught by O'Neill.

As to claim 10, O'Neill discloses that the controller dynamically varies the value of the boundary pointers during operation in response to the amount of incoming data to be stored (Page 2, line 26 to page 3, line 2; page 3, line 24 to page 4, line 7). Because O'Neill indicates that the boundaries are altered as an adaptation to monitored traffic flows, and also describes a method to move the boundaries while the first-in/first-out buffer is occupied with data, it may be understood that this process takes place dynamically. O'Neill further teaches that this process saves memory and allows memory to adapt to traffic in a network (Page 4, lines 4-7).

Regarding claim 10, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to dynamically vary the value of the first and second boundary

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pointers during operation in response to the amount of incoming data as taught by O'Neill, in the system of APA, in order to save memory and allow adaptation to traffic in a network as taught by O'Neill.

Claims 16 and 20 are rejected using the same rationale as for the rejection of claims 6 and 10, respectively.

6. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (APA) in view of O'Neill (WO 96/38778 A1) as applied to claims 6 and 16 above, and further in view of Kornher (US 6,094,695).

APA and O'Neill are relied upon for the teachings relative to claims 6 and 16 as above.

The combination of APA and O'Neill does not teach that the controller operates to move the first and second boundary pointers so as to increase the size of the buffers on the basis of a 1:1 correspondence with the amount of incoming data as required by claims 9 and 19.

Kornher teaches a controller operating to move a boundary pointer so as to increase the size of a buffer on the basis of a 1:1 correspondence with an amount of incoming data (Fig. 3; column 6, lines 22-58).

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Kornher also teaches that moving the boundary allows the buffer size to increase and decrease as needed, thereby allowing a smaller amount of memory space to be reserved for data storage (Column 2, lines 54-62).

Regarding claim 9, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to move the boundary pointers on the basis of a 1:1 correspondence with an amount of incoming data as taught by Kornher, in the system made obvious by the combination of APA and O'Neill, in order to increase and decrease the buffer size as needed and allow a smaller amount of memory space to be reserved for data storage as taught by Kornher.

Claim 19 is rejected using the same rationale as for the rejection of claim 9 above.

Response to Arguments

7. Applicant's arguments filed 27 December 2004 with respect to the rejection of claims 6 and 16 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive.

Applicant is referred to the rejection of claims 16 and 20 above which has been modified to address the amendments to the claims.

Applicant argues that the combination of APA and O'Neill does not teach the claimed limitations (Pages 6-7). In particular, applicant states (Page 7, paragraph 2):

“O'Neill, on the other hand, does not disclose a boundary pointer which is separated from a read pointer and which is also capable of changing in a circulating fashion within a plurality of address location of the ring buffer. O'Neill discloses only that each of the address locations acts as one ring, whereby the first-in, first out memory device as a whole does not act as one ring. The boundary pointers of O'Neill therefore do not change in a circulating fashion within the ring buffer.”

As noted in the rejection above, O'Neill does indeed teach a read pointer separate from a boundary pointer. Regarding the limitations related to the first-in, first-out device acting as one ring and the boundary pointers changing in a circulating fashion, these teachings are found in APA. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The test for obviousness is not that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M Ross whose telephone number is (571) 272-4212. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMR

Mano Padmanabhan
1/21/05

**MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER**